

From wang!elf.wang.com!ucsd.edu!info-hams-relay Tue Apr 2 16:51:48 1991 remote  
from tosspot  
Received: by tosspot (1.64/waf)  
via UUCP; Tue, 02 Apr 91 20:09:34 EST  
for lee  
Received: from somewhere by elf.wang.com id aa22891; Tue, 2 Apr 91 16:51:45 GMT  
Received: from ucsd.edu by relay1.UU.NET with SMTP  
(5.61/UUNET-shadow-mx) id AA18007; Tue, 2 Apr 91 10:37:24 -0500  
Received: by ucsd.edu; id AA13496  
sendmail 5.64/UCSD-2.1-sun  
Tue, 2 Apr 91 04:30:49 -0800 for brian  
Received: by ucsd.edu; id AA13474  
sendmail 5.64/UCSD-2.1-sun  
Tue, 2 Apr 91 04:30:34 -0800 for /usr/lib/sendmail -oc -odb -oQ/var/spool/  
lqueue -oi -finfo-hams-relay info-hams-list  
Message-Id: <9104021230.AA13474@ucsd.edu>  
Date: Tue, 2 Apr 91 04:30:32 PST  
From: Info-Hams Mailing List and Newsgroup <info-hams-relay@ucsd.edu>  
Reply-To: Info-Hams@ucsd.edu  
Subject: Info-Hams Digest V91 #259  
To: Info-Hams@ucsd.edu

Info-Hams Digest Tue, 2 Apr 91 Volume 91 : Issue 259

Today's Topics:

\* SpaceNews 01-Apr-91 \*  
ATV: AM or FM  
Chinese Ham Ticket  
frequency standards  
Mentor needed  
Solar Flare!

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 1 Apr 91 15:47:54 GMT  
From: ka2qhd!kd2bd@RUTGERS.EDU  
Subject: \* SpaceNews 01-Apr-91 \*

To: info-hams@ucsd.edu

SB SPACE @ AMSAT < KD2BD \$SPC0401

\* SpaceNews 01-Apr-91 \*

Bulletin ID: \$SPC0401

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SpaceNews  
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MONDAY APRIL 1, 1991

SpaceNews originates at KD2BD in Wall Township, New Jersey, USA. It is published every week and is made available for unlimited distribution.

\* STS-37 LAUNCH ADVISORY \*

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NASA managers set April 5, 1991 as the target launch date for Space Shuttle mission STS-37. This will be the 39th flight of the Space Shuttle system and will include deployment of the Gamma Ray Observatory by the Shuttle Atlantis crew and the first "spacewalk" performed by Shuttle astronauts since returning to flight.

"The launch team has done a super job in getting us ready to fly STS-37" said Shuttle Director Robert Crippen. "With the delay in STS-39 Discovery, the team had a real challenge to meet, and they came through right on schedule."

The launch window on April 5 opens at 9:18 a.m. EST with the mission projected to last just over 5 days. A launch on April 5 at the opening of the window would put landing at Edwards Air Force Base, California on April 10.

STS-37 Launch Windows:

05-Apr-91 1418 - 1648 UTC  
06-Apr-91 1417 - 1647 UTC  
07-Apr-91 1416 - 1646 UTC  
08-Apr-91 1414 - 1644 UTC  
09-Apr-91 1413 - 1643 UTC

[Info via NASA]

\* SAREX INFO \*

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SAREX will communicate with amateur stations in line-of-sight of Atlantis in one of four transmission modes: FM voice, slow scan television (SSTV), packet radio or (uplink only) fast scan television (FSTV). The voice mode is operated in the crew-attended mode while SSTV, packet or FSTV can be operated in either an attended or automatic mode.

During STS-37, Pilot Ken Cameron, a licensed amateur radio operator (KB5AWP), will operate SAREX when he is not scheduled for orbiter or other payload activities. Cameron will make at least four transmissions to test each transmission mode. The remaining members of the STS-37 crew -- Commander Steve Nagel (N5RAW) and mission specialists Linda Godwin (N5RAX), Jay Apt (N5QWL) and Jerry Ross (KB5OHL) -- also are licensed ham operators.

SAREX is a joint effort of NASA, the American Radio Relay League (ARRL)/Amateur Radio Satellite Corporation (AMSAT) and the JSC Amateur Radio Club.

The 10 U.S. educational groups scheduled to contact Atlantis are: Clear Creek Independent School District of Houston; The University School in Shaker Heights, Ohio; Discovery Center Museum in Rockford, Ill.; Potter Junior High School in Fallbrook, Calif.; Hanover Elementary School in Bethlehem, Pa.; several schools in Southwest Oklahoma with operations based in Lawton; Lyman High School in Longwood, Fla.; Monroe Central School in Parker City, Ind.; Beaver Creek Elementary School in Downingtown, Pa.; and Reizenstein Middle School in Pittsburgh, Pa.

[Info via NASA]

#### \* SAREX FREQUENCIES \*

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Get out your HT's and HT programming manuals. You will want to program your 2 meter FM transceivers with the following information. Note that only stations with prior arrangements can uplink FSTV signals (special authorization is required from the FCC). It is expected that uplinking FSTV will require about 15kw ERP. FSTV ops and 2m can occur simultaneously.

Mode	Downlink Freq	Uplink Freq
Voice/SSTV	145.55	144.95 (primary), 144.91, 144.97
Packet	145.51	144.91 (primary), 144.93, 144.99
FSTV	none	70cm band

Please note that the frequencies they will be listening for stations ARE DIFFERENT than the one they will transmit on. This is a very important fact to understand. They will transmit to earth (downlink) on a single frequency 145.55 MHz for voice and SSTV. They will listen for stations transmitting to the shuttle (uplink) on the other frequencies listed. This "split" operation is used quite successfully by DXers when operating in an environment where large pile ups are expected.

There will be no simplex operation with SAREX on either voice or packet. Although packeteers are not accustomed to operation with a TX/RX offset, in this case, it is the only way to connect to SAREX. If you transmit on 145.55 or 145.51 MHz the only people who will hear you are those other Hams in your area trying to hear the shuttle.

[Info via Gary Morris, N5QWC/W5RRR]

\* TNX QSL! \*

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A special thanks to all those who sent QSLs to SpaceNews:

OH8UV : Markku Korhonen, Rimmelie, Finland

WH6I : Buzz Gorsky, Honolulu, Hawaii, USA

...and e-mail messages:

DG9MAQ, DL5KR, KB6LQV, N6TTR, UW3AX, VE7DFR, WD4MKQ

73 de John, KD2BD

/EX

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John A. Magliacane	FAX : (908) 747-7107
Electronics Technology Department	AMPR : KD2BD @ NN2Z.NJ.USA.NA
Brookdale Community College	UUCP : ...!rutgers!ka2qhd!kd2bd
Lincroft, NJ 07738 USA	VOICE: (908) 842-1900 ext 607

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Date: 2 Apr 91 07:13:21 GMT  
From: sdd.hp.com!news.cs.indiana.edu!ux1.cso.uiuc.edu!phil@ucsd.edu  
Subject: ATV: AM or FM  
To: info-hams@ucsd.edu

gary@ke4zv.UUCP (Gary Coffman) writes:

>Once you drop below the FM threshold, the signal does degrade very rapidly.  
>But get just a little above the threshold and the picture gets about as  
>good as it can get. Also, modern phase locked loop detectors can really  
>dig down in the noise. Usable broadcast pictures can be had with a C/N of  
>only 3 db. With a good receiver such as the Harris you'd have a 30 db  
>picture signal to noise ratio with a 3 db C/N, that's good enough for a  
>news live shot. I'd like to see usable AM pictures that weak.

Where would the break even point be between AM and FM in terms of picture quality for the same signal strength and bandwidth?

I am interested in doing things with VERY WEAK TV signals. I am talking about so weak that visually they appear to be just P0, you MIGHT be able to tell there is a sync bar in there sometimes.

To whatever extent the noise or interference mimics phase change components in the signal (for instance adding two sine waves 90 degrees apart, equal strength causes a 45 degree phase shift, lesser shifts for lesser amounts) even the best phase lock loop cannot improve the signal because it would need to have some way to know what is signal and what is noise to do that.

>By the way, all these TV news remote trucks you see scurrying about use  
>FM microwave links too. Our trucks use 10 watt transmitters in the 2 Ghz  
>range and we get routine link range of at least 50 miles. The trucks  
>use 50 foot pneumatic masts mounting 14 db gain circular polarized antennas.  
>Note that the 10 watt signal has to travel through about 60 feet of RG9  
>to reach the antenna. That's about 12 db loss at 2 Ghz.

And how much gain is at the receiving end? 50 miles is easy to do in a flat area or any other radio line of sight situation.

>One final note, I don't know of \*any\* network affiliate that genlocks  
>his plant to the network signal these days. In the case of NBC affiliates,  
>the network downlink unit contains a frame synchronizer that is referenced  
>to the station's master sync generator. All signals from the plant including  
>the network signal are referenced to that cheap little crystal oscillator.  
>With frame synchronizers cheaper than a decent sync generator these days,  
>most plants have at least a half a dozen synchronizers for retiming incoming  
>feeds from their network, their remote trucks, their helicopters, and  
>any satellite feeds they may be using for their newscast. Nobody would  
>consider genlocking his plant to the unstable signal coming from a  
>news chopper, yet the news producer wants that chopper picture chroma  
>keyed in a window with his on set talent. He also wants to lay fancy  
>news graphic supers over the picture. The frame synchronizer comes  
>to the rescue. Most frame synchronizers will freeze the last good frame  
>they receive until another good one comes along.

Well clearly you do not genlock to an unstable source, and frame synchronizers

make this easy. But it is not hard to make an oscillator that keeps its master frequency tightly in tune with an incoming signal, as long as that signal is tight and stable, and free runs when it glitches, at the prices these things sell for anyway. But I suppose they don't do that. When I worked in TV, we did not have frame synchronizers; only the networks could afford them (1975). The genlock of the time either genlocked everything (color, horizontal, vertical) or nothing. I would have liked to have seen a genlock that would have locked the color only, leaving the horizontal and vertical in the phase it found them. Optionally it could run the color slightly off for a while to SLOWLY bring the frame into sync without any glitches. I never saw such a thing made.

>A recent article about using TV signals to achieve an atomic clock accuracy  
>reference that appeared in 73 Magazine really made me laugh. I doubt  
>that there is a broadcaster left in the country that doesn't pass his  
>network signal through a frame synchronizer when it enters his plant.  
>Thus your "atomic clock" reference is really a crystal oscillator that  
>probably isn't even in an oven. Indeed the NBC network routinely does  
>live satellite switches inside their programming. From one frame to the  
>next your picture may be coming from the East coast or the West coast.  
>They count on the frame synchronizer in the local affiliate plants to  
>keep the picture from rolling on your set at home.

Then I guess we will need to lock to something else. I wonder if you can get a 3.579 MHz out of a scrambled satellite picture? Are there any non-scrambled ones left? Would there be too much phase wobble from the satellite to work very well?

It's a shame they can't at least lock the master oscillator to the incoming color signal.

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/*****\
/ Phil Howard -- KA9WGN -- phil@ux1.cso.uiuc.edu      \
\ Lietuva laisva -- Brivu Latviju -- Eesti vabaks    /
\*****/
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Date: 2 Apr 91 04:20:00 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Chinese Ham Ticket  
To: info-hams@ucsd.edu

I have a Chinese student that is interested in ham radio. He is interested in talking with his parents in mainland China. Can his parents go to an ham station probably a club and talk to him while he is in this country. How do his parents go about getting a license in China and can they own a station other than a club

station.[A

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Date: 1 Apr 91 20:38:07 GMT  
From: hpcc05!hpsciz!rkarlqu@hplabs.hpl.hp.com  
Subject: frequency standards  
To: info-hams@ucsd.edu

> / hpsciz:rec.radio.amateur.misc / rlong@ee.eng.ohio-state.edu (Prof. Ronald Long) / 9:45 am Mar 30, 1991 /  
> I recall reading once that the tv networks use rubidium clocks to  
> set the color burst frequency and that you could pick off a signal  
> from your home tv which would essentially give you access to a  
> frequency standard of laboratory accuracy. There was a caveat that  
> you had to be careful to get a live broadcast.  
>  
> Ronald K. Long

My understanding is that the rubidium clocks went away in the 1970's because the affiliates all got digital time base correctors which allowed them to genlock the network to the station's local clock. Unless the local station uses a rubidium clock (never heard of that happening), there is nothing especially accurate about its frequency, even for a live network broadcast.

Rick N6RK

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Date: 1 Apr 91 23:59:54 GMT  
From: usc!elroy.jpl.nasa.gov!swrinde!zaphod.mps.ohio-state.edu!mips!cs.uoregon.edu!milton!sumax!thebes!ole!ssave@ucsd.edu  
Subject: Mentor needed  
To: info-hams@ucsd.edu

I am interested in Amateur radio. I would like to get started and give the required exams. What I want to request from you pros out there is for someone to help and guide in this process. I need to practice and I need to learn from someone with experience. Would someone like to take on this task.

I live in the Seattle area and have a degree in EE.

Shailendra  
beaver.cs.washington.edu!sumax!ole.uucp.ssave

Date: 2 Apr 91 06:33:00 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Solar Flare!  
To: info-hams@ucsd.edu

- MAJOR ENERGETIC EVENT SUMMARY

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- Region 6555 is still apparently complex enough to generate some  
- explosive activity. This region spawned two major flares today, both right  
- on the west limb. The first, a class X1.0/SF began at 19:07 UT, peaked at  
- 19:12 UT and ended at 19:19 UT on 31 March. This event was associated with a  
- 440 s.f.u. tenflare. No sweeps were observed with this flare. The location  
- of the flare was estimated at S21W98.

- By the way, did anyone else hear the SID or fadeout on 10m  
- Sunday morning (1909Z). Within 30 secs, the band died  
- completely -- I could only hear two stns between 28.400 and  
- 28.600. I looked outside to see if my antenna had fallen  
- down. It came back in about 10-15 minutes. By 1930Z,  
- conditions were very good. FR5DX (Reunion Is, nearly the  
- opposite side of the earth from here) was 59+10bd, and gave  
- me a new one. I've heard about sudden fades, but this was  
- the first time I've actually experienced one.

So \*that's\* what a solar flare sounds like. I did notice a  
big burst of noise around 1909-1910Z (like someone had  
started a vacuum cleaner) but then the noise faded back to  
normal and the band was dead for several minutes. I can  
understand the noise, but what is the mechanism that kills  
propagation? It is easy to imagine the band fading for an  
hour or two, but I have a harder time understanding the  
quick recovery.

Definately an interesting experience.

73 /Chris

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Date: 1 Apr 91 13:27:58 GMT  
From: pa.dec.com!shlump.nac.dec.com!ryn.mro4.dec.com!ultnix.enet.dec.com!  
taber@decwrl.dec.com  
To: info-hams@ucsd.edu

References <1991Mar28.155138.7660@pmafire.inel.gov>,  
<1991Mar29.074115.11843@markets.amix.com>, <20105@brahms.udel.edu>tabe  
Reply-To : taber@ultnix.enet.dec.com (Patrick St. Joseph Teahan Taber)



Subject : Re: Iambic Keyer solutions.....

By all means, start a company selling \$20 keyers.

In the mean time, look in the ARRL's handbook for a really simple design that uses few parts (and has few features) or get a curtis chip (~\$20) and wire it up. The latter gives a nicer keyer, but violates your finished keyer priceband. (Though when you start your company, you'll get the volume discount.)

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>>>==>PStJTT

Patrick St. Joseph Teahan Taber, KC1TD

If I was authorized to speak for my employer, I'd be too important to waste my time on this crap....

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Date: 1 Apr 91 19:44:16 GMT  
From: hpda!hpwala!hpwade!johns@hplabs.hpl.hp.com  
To: info-hams@ucsd.edu

References <andreap.669677698@s.ms.uky.edu>,  
<1991Mar23.015848.27076@bellcore.bellcore.com>, <4875@lib.tmc.edu>  
Reply-To : johns@hpwarf (John Silva)  
Subject : Re: First No-code Tech?

I just happened to 'peek into' this discussion. I used to be a Ham, (OK, not a REAL(TM) ham, since I only had a Novice license :-)) but never really used my license. My main reason for getting into Ham radio was because of my interest in electronics and computer usage over the Ham bands. Back then (circa 1978), my only way to get into the 'Ham-club' was to get my Novice license (which I somehow managed to do with the help of a local HP Ham). I never kept up with my code, so I just let my license expire (KA1BUG, if anyone has that now ???). If this no-code Tech license had existed, I'm sure I might have 'stayed around'.

John

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End of Info-Hams Digest

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